

Journal of Interdisciplinary Cycle Research

Editor-in-Chief
Managing Editor

S. W. Tromp
Janneke J. Bouma

Editorial Board

- Anatomy and Morphology** L. Ajello
Astronomy C. W. Allen, M. N. Gnevyshev, L. Krivsky, A. J. Ohl, H. E. Suess
Biology (General) L. Baillaud, L. G. Browman, F. A. Brown, F. di Castri, J. L. Cloudsley-Thompson, J. M. Echave Llanos, R. H. Reis, J. Salánki
Biometeorology E. F. Flach, S. W. Tromp, W. H. Weihe
Biophysics M. A. Lauffer, W. S. Moos, V. Vransky
Chemistry and Biochemistry Carmen Capel-Boute, D. R. Celander, H. S. Frank, W. V. Macfarlane, Y. Ueno, J. E. Vaux
Economics C. J. van Eyk, F. E. Norton, G. Tintner
Electrical Engineering H. L. König
Endocrinology *Animal:* I. Assenmacher, M. Fingerman, W. O. Haufe, W. Jöchle, W. V. Macfarlane, F. W. Merkel, R. Milline;
Human: Cl. Aron, F. C. Bartter, L. Copelman, G. B. Dell'Acqua, Annemarie König, A. Lungu, W. V. Macfarlane, G. Mall, L. Martini, B. L. Wajchenberg
Entomology F. di Castri, W. O. Haufe
Environmental Health H. Bastenier
Geochemistry H. E. Suess
Geology A. Brouwer, J. G. Weihaupt
Geophysics H. Flohn, H. L. König, H. E. Landsberg, A. J. Ohl, J. G. Weihaupt
Interdisciplinary Cycle Research E. R. Dewey
Mathematics and Statistics J. Blume, Simone Huyberechts, E. Parzen, A. Sollberger, G. Thinès, J. E. Vaux
Medicine F. C. Bartter, G. B. Dell'Acqua, B. Drettner, E. B. Hague, Th. Hellbrügge, J. Hensel, F. Hollwich, H. Kirchhoff, C. Mittermayer, Magda Radnot, H. A. Reimann, S. W. Tromp, W. H. Weihe
Meteorology G. W. Brier, E. F. Flach, H. Flohn, L. Krivsky, H. E. Landsberg, A. J. Ohl, B. P. Primault
Neurology E. Egaña, G. Mall
Nutrition W. V. Macfarlane, M. Rechcigl, K. Tatai
Paleontology A. Brouwer
Parasitology W. O. Haufe
Pharmacology K. I. Furman, E. B. Hague, L. Martini, A. Reinberg
Physiology *Animal and Plant:* L. Baillaud, J. M. Echave Llanos, W. O. Haufe, W. V. Macfarlane, F. W. Merkel, Z. Pucek, B. Rybak, G. Thinès, W. H. Weihe;
Human: B. Drettner, K. I. Furman, E. B. Hague, G. Hildebrandt, A. Koch, W. V. Macfarlane, S. Mizell, W. Müller-Limmroth, K. Ogata, A. Reinberg, Y. Ueno
Poultry Science M. van Albada, W. O. Wilson
Psychiatry L. Copelman, F. A. Jenner, S. Lesse, G. Mall, R. D. McDonald, A. Sollberger, N. Speyer
Psychology A. Chorus, P. Fraisse, G. T. Hauty, Th. Hellbrügge, B. Quarrington, G. Thinès
Veterinary Sciences W. Ferguson, E. S. E. Hafez, S. Mizell, D. T. Smidt, C. J. Thwaites

CONTENTS

Number 1 - March 1971

Methodologic Considerations for Human Chronobiology	<i>A. Reinberg</i>	1
A Study of Possible Cyclic Patterns in Human Aggressiveness Leading to National and International Conflicts	<i>E.R. Dewey</i>	17
An 80-Year Cycle of the Mean Monthly Temperature of the Air in the Northern Hemisphere	<i>A.D. Gedeonow</i>	23
Circadiane Rhythmen von Hormonen bei der Ratte. Eine Übersicht	<i>Gisa Hardeland, L. Rensing und R. Hardeland</i>	29
Circadian Rhythm in Mouse Liver Phosphorylase Activity	<i>C.A. Vilchez and I.E. Saffe de Vilchez</i>	55
On Central Nervous Minute-Periodicity and its Coordination	<i>J. Stebel and R. Sinz</i>	63
Circadian Rhythm in the Feeding Activity of <i>Oxymycterus Rutilans</i>		
Role Played by Light and Food Availability	<i>C.A. Vilchez and J.M. Echave Llanos</i>	73
Disturbances in the Annual Weight and Hibernation Cycles of Thirteen-Lined Ground Squirrels Kept in Constant Conditions and the Effects of Temperature Changes	<i>N. Mrosovsky and Kirsteen Lang</i>	79
The Changes in Locomotor Rhythms of <i>Microtus Montanus</i> Infected with <i>Trypanosoma Gambiense</i>	<i>J.R. Seed and N. Khalili</i>	91
Circadian Variations of the Protein Metabolism in Muscle	<i>O.R. Rebolledo and J.J. Gagliardino</i>	101

Number 2 - June 1971

Proceedings Second International Interdisciplinary Cycle Research Symposium held at Noordwijk (The Netherlands), 14-19 June 1970

Part I

EDITORIAL		109
I. BIOLOGICAL CYCLES		
1. IN BIOCHEMICAL SYSTEMS		
Cyclic Phenomena in Biological and Biochemical Systems	<i>A. Betz and L. von Klitzing</i>	111
2. AT CELLULAR LEVEL		
Long-Term Persistence of Free-Running Circadian Rhythms of Cell Division in <i>Euglena</i> and the Implication of Autosynchrony	<i>L.N. Edmunds, L. Chuang, R.M. Jarrett and O.W. Terry</i>	121
Possible Diversity in Basic Mechanisms of Biological Oscillations	<i>Thérèse Vanden Driessche</i>	133
3. IN LIVING ORGANISMS		
(a) Animals		
An Annual Cycle of Some Correlated Phenomena in the Life of the Frog, <i>Rana esculenta</i>	<i>G. Becht</i>	147

Diurnal Rhythms and Thermoregulation in Ectotherms	<i>J.L. Cloudsley-Thompson</i>	149
Circadian Rhythms in Monkeys, Dogs and Other Animals	<i>F. Hawking</i>	153
Circadian Rhythms of Parasites	<i>F. Hawking</i>	157
Circadian Variations in Sensitivity of the Pigeon Crop to Prolactin	<i>A.H. Meier, J.T. Burns, K.B. Davis and T.M. John</i>	161
External Factors Influencing the Tidal Rhythm of Shore Crabs	<i>E. Naylor, R.J.A. Atkinson and Barbara G. Williams</i>	173
Control of Periodicity by Non-Oscillating External Factors in <i>Pelecypoda</i>	<i>J. Salánki</i>	181
Changes in the Cyclic Development of the Silk Worm <i>Bombyx mori</i> L	<i>V.K. Vransky, P.T. Dimitrov and K.T. Donev</i>	187
Effects of Artificial 24-Hour Cycles on the Tidal Rhythm of Activity in the Fiddler Crab, <i>Uca pugnax</i>	<i>H. Marguerite Webb</i>	191

(b) Plants

Research on the Fruiting Rhythm of a Basidiomycete Mushroom, <i>Coprinus congregatus</i> Bull. ex Fr.	<i>G. Manachère</i>	199
---	---------------------	-----

4. IN POPULATION GROUPS

Terrestrial Modulations of the Daily Cycle of Birth.	<i>Françoise Gauquelin</i>	211
Methodological Model Analysing Possible Extraterrestrial Effects on the Daily Cycle of Birth	<i>M. Gauquelin</i>	219
Genetic Sensitivity to External Factors during the Daily Cycle of the Deliveries	<i>M. Gauquelin</i>	227

II. PHYSIOLOGICAL CYCLES

1. GENERAL

Vasomotor Rhythms in Aclral Skin Region as Influenced by Regularly Spaced Stimuli	<i>E. Kellero</i>	233
---	-------------------	-----

2. HORMONAL CYCLES

Olfactory Stimuli and Their Function in the Regulation of the Duration of the Oestrous Cycle in the Rat	<i>C. Aron, Jacqueline Roos and M. Roos</i>	239
Circadian Rhythms of the Urinary 17-OHCS and VMA in Continuous Light, During Sound and Light Deprivation	<i>Mária Fatranská</i>	247
The Effect of Continuous Illumination on the Circadian Rhythm of the Antidiuretic Activity of the Rat Pineal.	<i>Annemarie König and A. Meyer</i>	255

3. URINARY CYCLES

Diurnal Urinary Excretion Rhythms in Patients after Renal Transplantation	<i>K.I. Furman, B. Goldberg and R.M. Löffler</i>	263
Circadian Rhythms of Renal Excretion in Human Subjects at Different Latitudes	<i>Mary C. Lobban</i>	273

Number 3 - August 1971

Proceedings Second International Interdisciplinary Cycle Research Symposium held at Noordwijk (The Netherlands), 14-19 June 1970

Part II

III. VETERINARY CYCLES

Individual, Diurnal and Time-of-Day Variations in the Blood Constituents of Cattle	<i>J. Unshelm and H. Hagemeister</i>	283
--	--------------------------------------	-----

IV. MEDICAL CYCLES

Circadian Rhythm in the Blind	<i>F. Hollwich and B. Dieckhues</i>	291
Bioelectrical Rhythms in Human Blood		
. <i>Donatella Senatra, L. Corti, G. Piccardi, W. Grassi and F. Baroncelli</i>		303
Possible Causes of Short and Long Periodical Changes in Blood Sedimentation Rate Patterns in The Netherlands, and Their Possible Significance for the Prediction of Influenza Epidemics	<i>S.W. Tromp</i>	313
Monthly and Yearly Fluctuations in Mortality from Arteriosclerotic Heart Diseases and Cerebral Apoplexy in The Netherlands (Period 1936-1958)	<i>S.W. Tromp</i>	315

V. GEOPHYSICAL CYCLES

METEOROLOGICAL CYCLES

Biological Effects of Extremely Low Frequency Electrical Phenomena in the Atmosphere	<i>H. König</i>	317
--	-----------------	-----

ASTRONOMICAL CYCLES

Study of the Rotation of the Earth	<i>J. de Prins and R. Gillard</i>	325
--	-----------------------------------	-----

VI. CYCLE SYNCHRONIES

Cycle Synchronies	<i>E.R. Dewey</i>	331
-----------------------------	-------------------	-----

VII. CYCLE STATISTICS

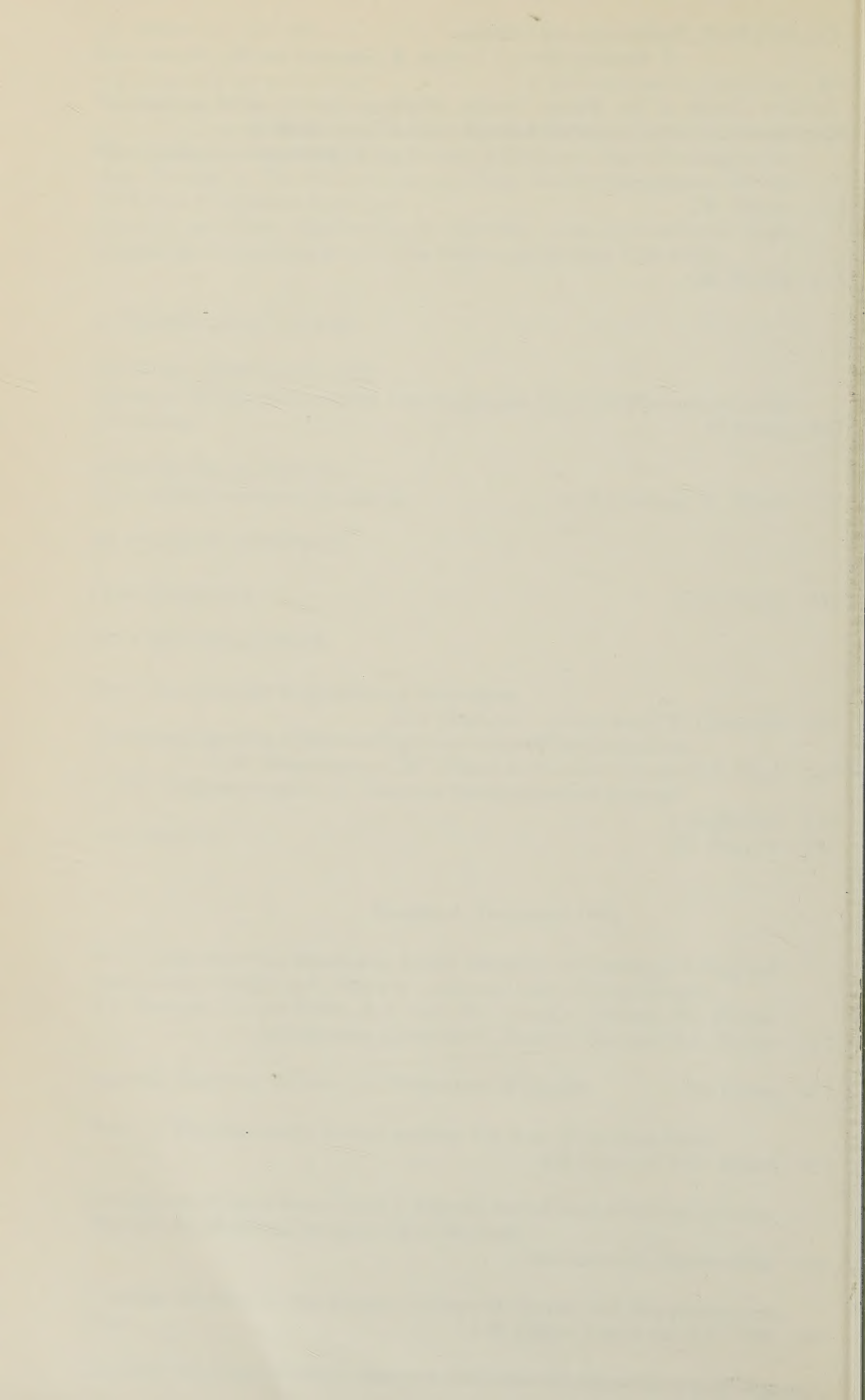
Time Series Analysis in Geophysical Phenomena		
. <i>G.W. Brier, G.F. Cotton and T.H. Carpenter</i>		363
The Summation-Dial, a Vectorial Representation of Time Series Data		
. <i>N.W. Hetherington, C.M. Winget, L.S. Rosenblatt and P.B. Mack</i>		365
A New Computer Program for Transient Synchronization Analysis	<i>A. Sollberger</i>	379
Array Analysis.	<i>J.E. Vaux Jr.</i>	391

Number 4 - December 1971

Authorhythmometry in Myasthenia Gravis: Detection of Chronopathology and Assessment of Condition by Rhythm - Adjusted Level of Grip Strength		
<i>H.W. Simpson, Carmen Kelsey, R.A. Gatti, R.A. Good, F. Halberg, J.G. Bohlen, R.B. Sothorn, Catherine S. Delea, E. Haus and F.C. Bartter</i>		397
Seasonal Variations of Congenital Dislocation of the Hip	<i>Ph. Cohen</i>	417
Phases of Photosensitivity in the Circadian Rhythms of Coturnix Quail	<i>J.R. Cain and W.O. Wilson</i>	427
Entrainment of the Adrenal Cortical Rhythm and of the Locomotor Activity Rhythms by Ahemeral Photoperiods in the Quail	<i>J. Boissin and I. Assenmacher</i>	437
Circadian Rhythm in the Gastric Content of Normal and Hepatectomized Mice	<i>J.M. Echave Llanos and R.E. Nash</i>	445
Circadian Rhythms (Activity, Temperature, Urine and Microfilariae) in Dog,		

Cat, Hen, Duck, Thamnomys and Gerbillus
. F. Hawking, Mary C. Lobban, K. Gammage and M.J. Worms 455

Activity Cycles of the Rhesus Monkey (*Macaca mulatta*) under several
Experimental Conditions, both in Isolation and in a Group Situation
. A.M. Yellin and G.T. Hauty 475



AUTHOR INDEX

- Aron, C., 239
 Assenmacher, I., 437
 Atkinson, R.J.A., 173
 Baroncelli, F., 303
 Bartter, F.C., 397
 Becht, G., 147
 Betz, A., 111
 Bohlen, J.G., 397
 Boissin, J., 437
 Brier, G.W., 363
 Burns, J.T., 161
 Cain, J.R., 427
 Carpenter, T.H., 363
 Chuang, L., 121
 Cloudsley-Thompson, J.L., 149
 Cohen, Ph., 417
 Corti, L., 303
 Cotton, G.F., 363
 Davis, K.B., 161
 Delea, Catherine S., 397
 Dewey, E.R., 17, 331
 Dieckhues, B., 291
 Dimitrov, P.T., 187
 Donev, K.T., 187
 Echave Llanos, J.M., 73, 445
 Edmunds, L.N., 121
 Fatranská, Mária, 247
 Furman, K.I., 263
 Gagliardino, J.J., 101
 Gammage, K., 455
 Gatti, R.A., 397
 Gauquelin, Françoise, 211
 Gauquelin, M., 219, 227
 Gedeonow, A.D., 23
 Gillard, R., 325
 Goldberg, B., 263
 Good, R.A., 397
 Grassi, W., 303
 Hagemeister, H., 283
 Halberg, F., 397
 Hardeland, Gisa, 29
 Hardeland, R., 29
 Haus, E., 397
 Hauty, G.T., 475
 Hawking, F., 153, 157, 455
 Hetherington, N.W., 365
 Hollwich, F., 291
 Jarrett, R.M., 121
 John, T.M., 161
 Kellerová, E., 233
 Kelsey, Carmen, 397
 Khalili, N., 91
 Klitzing, L. von, 111
 König, Annemarie, 255
 König, H., 317
 Lang, Kirsteen, 79
 Lobban, Mary C., 273, 455
 Löffler, R.M., 263
 Mack, P.B., 365
 Manachère, G., 199
 Meier, A.H., 161
 Meyer, A., 255
 Mrosovsky, N., 79
 Nash, R.E., 445
 Naylor, E., 173
 Piccardi, G., 303
 Prins, J. De, 325
 Rebolledo, O.R., 101
 Reinberg, A., 1
 Rensing, L., 29
 Roos, Jacqueline, 239
 Roos, M., 239
 Rosenblatt, L.S., 365
 Saffe de Vilchez, I.E., 55
 Salánki, J., 181
 Seed, J.R., 91
 Senatra, Donatella, 303
 Simpson, H.W., 397
 Sinz, R., 63
 Sollberger, A., 379
 Sothern, R.B., 397
 Stebel, J., 63
 Terry, O.W., 121
 Tromp, S.W., 109, 313, 315
 Unshelm, J., 283
 Vanden Driessche, Thérèse, 133
 Vaux Jr., J.E., 391
 Vilchez, C.A., 55, 73
 Vransky, V.K., 187
 Webb, H. Marguerite, 191
 Williams, Barbara G., 173
 Wilson, W.O., 427
 Winget, C.M., 365
 Worms, M.J., 455
 Yellin, A.M., 475

